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# PATENT ABSTRACTS OF JAPAN

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(71) Applicant: **NEC CORP**

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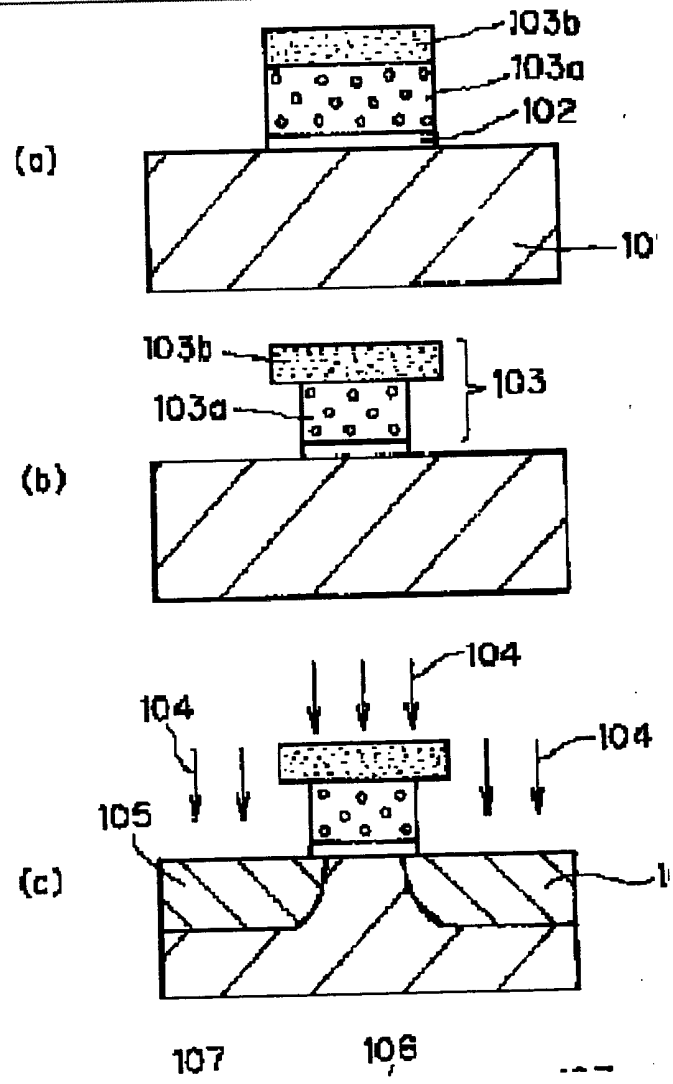
(74) Representative:

## (54) MANUFACTURE OF SEMICONDUCTOR DEVICE

(57) Abstract:

PROBLEM TO BE SOLVED: To suppress leakage by suppressing the short channel effect, preventing a punch through, and sufficiently repairing a defect in a pocket region introduced at ion implantation.

SOLUTION: A gate insulation film 102, a polysilicon film 103a and a WSi film 103b are formed on a p-type silicon substrate 101, to pattern into a gate electrode shape. Then, a polysilicon film 103a is side-etched to form a T-shaped gate electrode 103, and then As+ 104 is implanted to form a source/drain region 105. Then a Ti film 106 is accumulated in a collimate sputtering process, etc., and BF2+ is implanted obliquely to form a pocket region 108. After this, the Ti film 106 is removed, and high-temperature heat treatment is, performed, to repair a defect introduced by activation of implantated ionic species and ion implantation.



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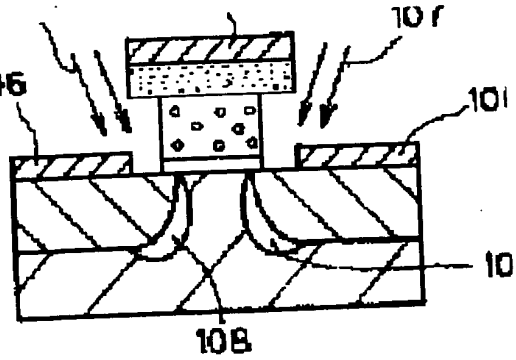

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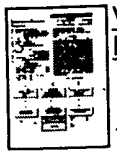

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Forward References:

| PDF | Patent | Pub.Date | Inventor | Assignee | Title |
|---|---|---|---|---|---|
| | US6281052 | 2001-08-28 | Shinmura; Toshiki | NEC Corporation | Method of manufactur semiconductor device |

Other Abstract Info:
None